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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,886	03/30/2001	Martha K. Newell	C1102/7002(HCL)	7558

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Helen C. Lockhart
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Federal Reserve Plaza
600 Atlantic Avenue
Boston, MA 02210-2211

EXAMINER

FOX, DAVID T

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 07/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,886

Applicant(s)

NEWELL ET AL.

Examiner

David T. Fox

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ONE(1) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-49 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12 and 42-46, drawn to a plant transformed with a mammalian UCP gene for overexpression of UCP, classified in class 800, subclass 288, for example.
- II. Claims 7-8, 13-14, 42 and 47, drawn to a method for increasing UCP expression via contacting a plant with a sugar, classified in class 514, subclass 23, for example.
- III. Claims 7-8, 15-16, 42 and 48, drawn to a method for increasing UCP expression via contacting a plant with a UCP protein linked to a fatty acid transporter, classified in class 424, subclass 450, for example.
- IV. Claims 7-8, 17-18, 42 and 48, drawn to a method of increasing UCP expression via contacting a plant with a UCP protein linked to a chloroplast-targeting protein, classified in class 530, subclass 379, for example.
- V. Claims 7-8 and 19-20, drawn to a method of increasing UCP expression via contacting a plant with a UCP protein linked to a plasma membrane-targeting protein, classified in class 514, subclass 2, for example.
- VI. Claims 7-8 and 21-22, drawn to a method of increasing UCP expression via contacting a plant with a UCP protein linked to a plasmadesmata targeting protein, classified in class 530, subclass 300, for example.

- VII. Claims 7-8 and 23-24, drawn to a method of increasing UCP expression via contacting a plant with a UCP protein linked to a pore targeting protein, classified in class 530, subclass 330, for example.
- VIII. Claims 7, 25-27, 38-41 and 49, drawn to a method of decreasing UCP expression via contacting a plant with antisense RNA, classified in class 536, subclass 24.5, for example.
- IX. Claims 28-37, drawn to a plant transformed with a gene encoding a fusion protein comprising a UCP protein linked to a cell wall targeting peptide, classified in class 435, subclass 69.8, for example.

Claims 7-8, 42 and 48 will be examined to the extent that they read on the elected invention.

The inventions are distinct, each from the other because:

Inventions I-IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation and different functions.

The inventions of Groups I, VIII and IX involve nucleic acid constructs and methods of plant transformation and regeneration, each not required by any other group. The invention of Group I involves sense constructs for overexpression of a UCP protein alone, not required by any other group. The invention of Group IX requires fusion protein-encoding constructs, not required by any other group. The invention of

Group VIII involves methods of decreasing UCP activity, and antisense constructs, not required by any other group.

The inventions of Groups IV-VII involve topical plant application with proteins not required by any other group, wherein each of Groups IV-VII requires a particular targeting protein for a particular target and of a particular sequence, each not required by the other. The inventions of Groups II and III require topical plant application with either a sugar or a fatty acid transporter, not required by any other group or each other.

Applicants are reminded that nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute independent and distinct inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq.

Upon election of a Group above, Applicant is additionally required to select a single nucleotide sequence and corresponding amino acid sequence for said Group. Specifically, the claims encompass mammalian UCP proteins including the human UCP1-6 proteins, each with its own sequence corresponding to SEQ ID NOS 1-2, 3-4 and 5-6; a "PUMP" UCP protein of undisclosed source or sequence; a gene encoding a potato UCP protein of SEQ ID NO:7, and genes encoding Arabidopsis UCP proteins of SEQ ID NOS: 8-9. This requirement is not to be construed as a requirement for an election of species, since each nucleotide and amino acid sequence is not a member of

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single genus of invention, but constitutes an independent and patentably distinct invention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, classification, and fields of search, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David T. Fox whose telephone number is (703) 308-0280. The examiner can normally be reached on Monday through Friday from 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached on (703) 306-3218. The fax phone number for this Group is (703) 872-9306. The after final fax phone number is (703) 872-9307.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

July 21, 2003

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180-1638

